

REMARKS

Applicant would like to thank the Examiner for the careful consideration given the present application. The application has been carefully reviewed in light of the Office action, and amended as necessary to more clearly and particularly describe the subject matter which applicant regards as the invention.

Claims 12 – 15, 30, and 31 were rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,281,436 to Gotoh et al. (hereinafter, "Gotoh"). The rejections are traversed for the following reasons.

The invention defined in claim 12 is directed to a circuit board in which a circuit portion is formed on an insulating substrate by a conductive layer. A through hole and/or a non-through hole are provided through the insulating layer. The internal wall of the hole is covered or filled with the conductive layer and the land of the hole is formed continuously like a concentric circle with respect to the hole. A maximum height of the conductive layer in a non-coupling portion of the land is greater than or equal to 5 μm . The maximum height of the conductive layer in the non-coupling portion is smaller than or equal to a thickness of the conductive layer in a circuit portion. With a corner portion of the insulating substrate set as a reference point, a land width from the reference point is 0 to 40 μm .

Gotoh teaches a circuit board formed on an insulating layer having a through hole (20) provided therethrough. A conductive layer is provided on the insulating layer and covers the internal walls of the through hole. The Examiner cites to Col. 6, lines 25 – 45 of Gotoh for teaching the dimensional features of claim 12.

With reference to Fig. 66(a) of the present application, the reference

character "L" provides graphical context for the below discussion. Particularly, it is noted that the land width is the distance the land extends from a respective edge corner of the through hole. Accordingly, the land width, "L", can be calculated using the below formula:

$$L = (DL - DTH)/2$$

Wherein, DL is the total diameter of the land and DTH is the diameter of the through hole.

With reference to the cited passage, Gotoh discloses that the land pad diameter (DL) is 0.8mm (800 μ m) and the diameter of the through hole (DTH) is 0.5mm (500 μ m). Applying these values to the above equation (subtracting the through hole diameter of 0.5mm from the land diameter 0.8mm and dividing by two) yields a land width of 0.15 mm (150 μ m).

As 150 μ m is much greater than 40 μ m, Gotoh fails to teach that "with a corner portion of the insulating substrate set to be a reference point ... a land width from the reference point is 0 to 40 μ m", as required by claim 12. Accordingly, Gotoh fails to teach each and every feature recited in claim 12 and thus does not anticipate the claim. Reconsideration and withdrawal of the rejection of claim 12 is requested.

Claims 13 – 15, 30, and 31 depend from claim 12 and are therefore likewise considered allowable over the art.

In light of the foregoing, it is respectfully submitted that the present application is in a condition for allowance and notice to that effect is hereby requested. If it is determined that the application is not in a condition for allowance, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. NGB-16837.

Respectfully submitted,

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